



New Patent Claims

SUB A₁ > 1. Molded body from a lightweight substance formed from a lightweight aggregate and a sintering auxiliary, characterized by the fact that the lightweight substance is a sintered product obtained by mixing of 60 to 95 wt% of a lightweight aggregate, chosen from perlites, expanded clay, expanded glass, vermiculites, cenospheres and kieselguhr and/or their mixtures with 40 to 5 wt% of an aqueous alkali silicate solution, in which the lightweight aggregate is bonded in a network fashion exclusively at the contact sites to obtain its essential properties.

2. Molded body according to Claim 1 or 2, characterized by the fact that the dry bulk density lies in the range from 150 to 750 kg/m³.

SUB A₃ > 3. Molded body according to Claim 1 or 2, characterized by the fact that the compressive strength lies in the range from 0.1 to 15 N/mm².

4. Molded body according to at least one of the Claims 1 to 3, characterized by the fact that the sintered product is formed from 93 to 80 wt% of lightweight aggregate and 7 to 20 wt% of water-soluble alkali silicates.

SUB A₄ > 5. Molded body according to at least one of the Claims 1 to 4, characterized by the fact that the water-soluble silicate is chosen from alkali silicates, especially water glass, especially sodium water glass and potassium water glass.

6. Process for production of a molded body according to at least one of the Claims 1 to 5, characterized by the fact that the lightweight aggregate and the binder are subjected to a shaping process after mixing and sintered at 400°C to 1000°C over a period from 0.1 h to 5 h.

7. Process according to Claim 6, characterized by the fact that the dry bulk density and/or compressive strength is adjusted as a function of the lightweight aggregate and the process parameters during sintering.

8. Process according to Claim 6 or 7, characterized by the fact that drying at 50°C to 95°C is carried out after shaping and before sintering.

9. Process according to at least one of the Claims 6 to 8, characterized by the fact that the sintering process is conducted at 550 to 850°C.

10. Process according to at least one of the Claims 6 to 9, characterized by the fact that sintering occurs during a period from 0.1 h to 0.5 h.

11. Use of a molded bodies according to at least one of the Claims 1 to 5 as insulation molded bodies.

12. Use of the molded bodies according to at least one of the Claims 1 to 5 as construction material, especially as bricks.

13. Use of the molded bodies according to at least one of the Claims 1 to 5 as furnace lining.

